

CLAIMS

What is claimed is:

1. A method comprising:

- (a) positioning an array of light emitting devices (LEDs) in a first position;
- (b) moving said array of LEDs;
- (c) determining if said array of LEDs are in a given position;
- (d) receiving an input display signal;
- (e) energizing one or more LEDs in said array of LEDs;
- (f) sensing if said array of LEDs is at an end position; and
- (g) if not at said end position repeating (b) through (f); and
if at said end position repeating (a) through (f).

2. The method of claim 1 wherein said positioning and moving further comprises a linear motion.

3. The method of claim 1 wherein said energizing is based upon said received input display signal;

4. The method of claim 1 wherein said array further comprises an array of substantially red light emitting diodes, an array of substantially green light emitting diodes, and an array of substantially blue light emitting diodes.

5. The method of claim 4 further comprising focusing any light emitted from said red, green, and blue light emitting diodes on a projection surface.
6. The method of claim 1 further comprising M said light emitting devices and N said given positions and said method of claim 1 is capable of producing an MxN display.
7. A machine-readable medium having stored thereon instructions, which when executed performs the method of claim 1.
8. A system comprising a processor coupled to a memory, which when executing a set of instructions performs the method of claim 1.
9. The method of claim 1 further comprising communicating a payment and/or credit.
10. An apparatus comprising:
 - a linear movement stage;
 - a substrate mounted to said linear movement stage;
 - an array of light emitting devices (LEDs) attached to said substrate; and
 - a controller attached to said substrate.
11. The apparatus of claim 10 wherein said linear movement stage is capable of movement in one or more directions.

12. The apparatus of claim 10 wherein said linear movement stage is capable of movement back and forth.

13. The apparatus of claim 10 wherein said controller is coupled to control illumination of zero or more LEDs of said array of LEDs.

14. The apparatus of claim 13 wherein said controller is coupled to control positioning of said linear movement stage.

15. The apparatus of claim 10 wherein said linear movement stage further comprises one or more substantially parallel rails.

16. An apparatus for creating a display comprising:

means for positioning an array of light emitting devices (LEDs);

means for energizing zero or more LEDs of said array of LEDs; and

means for focusing any light from said energized zero or more LEDs.

17. The apparatus of claim 16 further comprising means for compensating for wear associated with said LEDs.

18. The apparatus of claim 16 further comprising means for compensating for wear associated with said means for positioning.

19. The apparatus of claim 16 wherein said means for positioning comprises means for positioning in a substantially circular path.

20. The apparatus of claim 16 further comprising means for producing an MxN display using M LEDs in said array of LEDs and N positions.

21. The apparatus of claim 16 further comprising means for producing an MxN display using M/2 LEDs in said array of LEDs and N positions.

22. The apparatus of claim 16 further comprising means for producing an MxN display using M/J LEDs in said array of LEDs and N positions where J is an integer greater than zero.

23. The apparatus of claim 20 further comprising creating said MxN display substantially 24 to 170 times per second.

24. A machine-readable medium having stored thereon information representing the apparatus of claim 16.

25. An apparatus comprising:

a first linear movement stage mounted on one or more rails oriented in a first direction;

a platform mounted to said first linear movement stage;

a second linear movement stage mounted on one or more rails oriented in a second direction attached to said platform;

a substrate mounted to said second linear movement stage; and

an array of light emitting devices (LEDs) attached to said substrate.

26. The apparatus of claim 25 wherein said first direction and said second direction are substantially at a right angle.

27. The apparatus of claim 25 further comprising:

a first moving means attached to said first linear movement stage; and

a second moving means attached to said second linear movement stage.

28. The apparatus of claim 27 wherein said second moving means is mounted on said platform.

29. The apparatus of claim 25 further comprising one or more lenses in optical communication with said array of LEDs.

30. A system for displaying an image comprising:

means for receiving a display signal;

means for positioning an array of light emitting devices (LEDs);

means for determining a precise location of said array of LEDs;

means for energizing one or more LEDs of said array of LEDs based upon said

display signal; and

means for optically conveying light from said energized one or more LEDs.

31. A display apparatus comprising:

a plurality of movable optical sources capable of producing an optical output;

a lens capable of receiving and projecting the optical output.

32. The display apparatus of claim 31 where said lens further comprises a plurality of lenses.

33. The display apparatus of claim 32 wherein some of said plurality of lenses is a group of microlenses in substantially close physical proximity to and optically coupled to one or more of said plurality of movable optical sources.

34. The display apparatus of claim 33 wherein some of said plurality of lenses are lenses associated with a projection lens system for projecting said optical output onto a viewable surface.

35. The display apparatus of claim 34 wherein said viewable surface is selected from the group consisting of a flat surface, a retinal surface, and a semi-transparent optical surface.

36. A method for producing an MxN display, the method comprising:

moving a row of substantially linearly spaced M elements capable of light production

to N positions; and

energizing one or more of said M elements to produce said light production at one or more of said N positions.

37. A method for producing an MxN display, the method comprising:

moving M elements capable of light production to N positions; and

energizing one or more of said M elements to produce said light production at one or more of said N positions.

38. The method of claim 37 wherein said moving further comprises moving at substantially a non-constant velocity.

39. The method of claim 37 wherein said energizing further comprises energizing at substantially a non-constant time interval.

40. The method of claim 37 wherein said moving further comprises moving in a substantially non-linear direction.